

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

FAYE M. GOODIE, et al.,
Plaintiffs,
vs. No. RDB-10-3478
UNITED STATES OF AMERICA,
Defendant.

/

Video Teleconference Deposition of LAWRENCE E.
HOLDER, M.D., taken on behalf of the Defendant, pursuant
to Notice of Subpoena for Deposition Duces Tecum in the
above-entitled action, on Wednesday, January 25, 2012,
at 10:08 a.m., at Hedquist & Associates, 345 East
Forsyth Street, Jacksonville, Florida, before Teresa S.
DeCiancio, RDR, CRR, CCP, CBC, FPR, and Notary Public in
and for the State of Florida at Large.

APPEARANCES:

FOR THE PLAINTIFFS:

MICHAEL P. SMITH, Esquire (by video teleconference)
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I N D E X

E X A M I N A T I O N S

WITNESS Page

LAWRENCE E. HOLDER, M.D.

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FOR IDENTIFICATION Page

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S T I P U L A T I O N

It was stipulated and agreed by and between counsel
for the respective parties, and the witness, that the
reading and signing of the deposition by the witness was
not waived.

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LAWRENCE E. HOLDER, M.D.,

acknowledged having been duly sworn to tell the truth
and testified upon his oath as follows:

THE WITNESS: I do.

DIRECT EXAMINATION

BY MR. MEDINGER:

Q Okay. Good morning, Doctor.

A Good morning.

Q My name is Jason Medinger. I'm an Assistant
U.S. Attorney representing in this case the United
States of America. You've been designated as an expert
for the plaintiff and we're here today to take your
deposition. I know that you've been deposed many times
before, so we'll just very quickly go through a couple
ground rules for the record, but I'm sure you understood
them.

Everything you say is going to be taken down by
a court reporter. We're doing this by video
teleconference, so to the extent we can, you know, I

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1 will try to be as clear as I possibly can and wait for
2 you to finish your answer before I ask another question.

3 Throughout the deposition, you know, please
4 give responsive answers as opposed to head shakes and
5 nods.

6 If you don't understand a question I'm asking
7 at any point, just ask me to clarify and I'll do the
8 best I possibly can. If you don't stop me to ask for
9 clarification, I'll just assume that you've understood
10 everything I've said and that your answer is responsive
11 to my question.

12 So any questions before we get started?

13 A No. I understand your instructions clearly.

14 Q Very good.

15 Any reason at all why we can't -- you can't
16 give full and complete testimony here today?

17 A No.

18 Q Okay. Could you please just state your full
19 name for the record, sir?

20 A Lawrence E. Holder, H-o-l-d-e-r.

21 Q Okay. And could you please tell us the address
22 at which you currently reside?

23 A 12304 Arbor Drive, Ponte Vedra Beach, Florida
24 32082.

25 Q Okay, sir. We'd like to mark as deposition

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1 Exhibit 1 this deposition notice that we had sent out.
2 Do you have a copy of it in front of you there?

3 A Yes.

4 (Defendant's Exhibit Number 1 was marked for
5 identification.)

6 BY MR. MEDINGER:

7 Q And the deposition notice asks you to bring
8 four categories of documents, and I just want to ask you
9 real briefly about those documents and any documents you
10 might have received in this case.

11 First and foremost, can you tell me what
12 documents you brought with you today to this deposition?

13 A Yes.

14 I brought some medical records from the
15 Baltimore VA Medical Center. They're all of them that I
16 was sent. It says printed on March 26, 2008, and they
17 go through Page 203.

18 I brought Johns Hopkins medical records which
19 says admitted October 10th, discharged October 11th.

20 Oh, I just noticed there's an autopsy report
21 from Johns Hopkins, 10/12/07.

22 You have -- we've just faxed so I have in front
23 of me an expert report that I dictated on August 17th,
24 2011, and a list of cases in which I have served as an
25 expert witness at deposition or trial in the previous

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1 four years. And this was from July 1 through -- 2007 --
2 through July 31, 2011.

3 And what I do not have -- well, that was --
4 that's what I brought. You also asked in Number 4 that
5 I bring a copy of an article, and I cannot find -- or I
6 couldn't yesterday when I looked online to find that
7 article. I think I could find it in print at the
8 library at the hospital and copy it.

9 Online, the -- in the American College of
10 Radiology website under -- there's something called
11 appropriateness criteria, and an updated version of that
12 is available. I was not on the panel that produced that
13 updated version. It's dated 2011.

14 And then Number 2 and Number 3, there was no
15 specific medical literature that I relied upon to make
16 my judgment.

17 I actually did look online -- I'm not sure
18 when; probably back in August or whenever it was that I
19 first was asked to look at the images -- I'm sure I
20 looked online to make sure that what I thought meshed
21 with the literature. I didn't make any notes, but
22 anybody could do the same literature review.

23 I also brought with me two disks that I was
24 sent, and this is what I -- I actually looked at these
25 images, though I don't know that it's relative, but you

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1 may ask me questions. One is a CT of the abdomen and
2 pelvis from 2007, October 9th. There's actually also
3 one from January 31st, 2006. And then another disk from
4 the Johns Hopkins Hospital has a CT on October 10th,
5 2007.

6 And that's the extent of what I have.

7 Q Okay. Thank you, Doctor.

8 Just a quick clarification with respect to the
9 VA medical records. I think you indicated that you had
10 Pages 1 through 203?

11 A Yes, sir.

12 MR. MEDINGER: Okay. And off the record for
13 just a second.

14 (Off-the-record discussion.)

15 MR. MEDINGER: Okay. We can go back on the
16 record.

17 BY MR. MEDINGER:

18 Q Doctor, just ask you a quick question. Is it
19 your understanding from reviewing the medical records
20 that you had the plaintiff's -- I'm sorry, the
21 decedent's, Mr. Maurice Johnson's, entire medical
22 history from the VA?

23 A I must tell you what I really looked at were
24 some radiology reports. I believe there's one on
25 Page 19, and there are some notes that I -- I folded

1 some pages down -- some -- Page 75 through 79.

2 I didn't -- I mean, there's a lot of stuff in
3 here that looked like nurses' notes and dates, and, you
4 know, for the question I was asked, I didn't pay a lot
5 of attention to that.

6 And that's all I have.

7 Q Okay. And I understand you're giving your
8 expert opinion as a radiologist.

9 A Right.

10 Q Is it fair to say, then, that the decedent's,
11 you know, past medical history, drug use, alcohol
12 dependency, things of that nature, those things didn't
13 factor into any of the opinions that you're giving in
14 this case?

15 A That's correct, yes, other than to say that at
16 some point the -- the radiologist, when he receives the
17 requisition, usually has a small amount of history on
18 it. To the extent that there may be something in the
19 history of these medical records that was important to
20 the referring physician, I'm not commenting on that,
21 because I didn't read this from the point of view of the
22 referring physician.

23 Q Okay. I think I understand your answer, and I
24 think maybe we'll ask a couple questions --

25 A Sure.

1 Q -- about, you know, whether that history should
2 have impacted what the radiologist did or didn't do. So
3 we'll talk about that later.

4 A Sure.

5 Q Okay. So, Doctor, other than these documents
6 you just described, were you given any other documents
7 to form your opinions in this case?

8 A No, sir.

9 Q Okay. And other than, you know, documents
10 themselves, did I hear you say that you might have
11 consulted other material --

12 A Yes.

13 Q -- in forming some of the opinions in your
14 case -- in this case?

15 A Not in forming my opinions. I would call it
16 verifying my opinions. In other words, you know, you
17 look at something and ask how has practice gone on and
18 how do you practice, and so I know that. And when I
19 then -- you then learn what the issue is in the case. I
20 may have gone to the literature just to say, "Hey, is
21 there any change in the last year in what I know that
22 I" -- you know, that I need to -- and that's all. And
23 to the extent that there wasn't anything different, I
24 didn't take any notes or print out anything or anything
25 like that.

1 Q Okay. Do you recall specifically what sources
2 you did consult?

3 A No. I -- I have the ability to go to the --
4 you know, the University of Florida library, which now
5 is very comprehensive in terms of digitally available.
6 And so I probably put in, you know, CT evaluation --
7 stone disease, CT evaluation, AEF, that kind of thing,
8 and then whatever articles came up, I may have punched a
9 couple and looked at them, and that's what I did.

10 Q Okay. And, again, as we sit here today, you
11 don't remember any specific titles that you consulted?

12 A I don't. But I -- like I say -- I mean, I'm
13 trying to be direct -- if you put in the same search
14 into PubMed, you'll get everything I get. That's what I
15 use, is PubMed.

16 Q Okay. And is it fair to say, then, that none
17 of your opinions are dependent upon what is said in the
18 medical literature?

19 A That's correct.

20 Q Other than just medical literature, did you
21 review any medical treatises prior to forming your
22 opinions in this case?

23 A No, sir.

24 Q You mentioned that you observed various imaging
25 studies which are on those CTs, a 2006 CT, a 2007 from

1 the VA and a 2007 from Hopkins; is that right?

2 A Yes, sir.

3 Q Okay. And any other imaging studies that you
4 might have consulted?

5 A No, sir.

6 Q Okay. Did you consult with any other person in
7 forming your opinions?

8 A No, sir.

9 Q Since forming your opinions in this case and
10 drafting your expert report, have you since done
11 anything else to prepare for this deposition?

12 A No.

13 Q Okay. Specifically, did you read any of the
14 fact witness depositions that have been given in this
15 case so far?

16 A No, sir.

17 Q Okay. And did you do any subsequent medical
18 literature review in preparation for this deposition?

19 A No, sir.

20 Q Okay. As you know, Doctor, this case involves
21 an aortic -- an aortoenteric fistula, which can we just
22 say we'll clarify as "AEF"?

23 A Sure.

24 Q That way I won't have to trip over it every
25 time I say it.

1 A And neither will I.

2 Q So we're dealing with an AEF that occurred in a
3 patient that had had an aortobifemoral bypass several
4 years before the AEF, right?

5 A That's correct.

6 Q Okay. And just for the record, Doctor, can you
7 tell us what your understanding of what an AEF is?

8 A Sure.

9 The aorta is a major blood vessel. Blood is in
10 the blood vessel. We call -- blood in what we call the
11 blood pool. And sometimes blood will move from the
12 aorta through the aortic wall and actually through the
13 wall of an adjacent loop, bowel loop, and then into the
14 bowel. And that's why it's called a fistula, because
15 that's a tract. And it can go into a variety of
16 different enteric structures, if you will, but it's just
17 a pathway. It moves from one to the other.

18 Q Okay. And, Doctor, are you familiar with the
19 difference between a primary AEF and a secondary AEF?

20 A Most people talk about a secondary AEF as
21 occurring after some sort of surgery or other
22 intervention.

23 Q Okay. And, Doctor, can you tell us
24 specifically just with a secondary AEF, are you familiar
25 with how that condition manifests itself?

1 A Well, it -- there's a physiologic continuum, if
2 you will. Sometimes it manifests it with blood in the
3 bowel. Sometimes it manifests it with abdominal pain.
4 And sometimes it can manifest itself with nothing. So
5 there's a range of clinical signs and symptoms that may
6 indicate an abdominal problem, and, again, you may have
7 blood in the bowel without any symptoms.

8 Q And, Doctor, you know, you as a radiologist,
9 would you say that this is an area of expertise for you,
10 or is this an area about which you have general
11 knowledge as a -- as a medical doctor?

12 A Well, it's really a combination. That's why
13 radiology is so much fun. We have a certain amount of
14 general medical knowledge and we deal with the clinical
15 situations that physicians are presented with. I happen
16 to like different kinds of issues that deal with
17 bleeding because we can image them in a variety of ways,
18 and I've done that in my career.

19 Q Okay. Would you agree that a vascular
20 specialist would have more knowledge than you?

21 A Not necessarily.

22 When you say a vascular specialist, you mean a
23 vascular surgeon?

24 Q Let's say a vascular surgeon.

25 A Well, he'll certainly know a lot more about the

1 surgical technique, and he may know certainly a little
2 more than I would about the patient coming into his
3 office or him evaluating the patient. So in that sense,
4 yes.

5 Q Okay. And also, in your role as a radiologist,
6 you wouldn't necessarily be called upon to determine
7 whether someone is having symptoms consistent with AEF
8 is that right?

9 A The only -- you know, it all depends on the
10 communication that you're doing with the clinician. The
11 person -- somebody else orders the examination, and
12 they've seen the patient or whatever and they say, "We
13 think the patient has a kidney stone," or, "We think the
14 patient has an AEF," or the patient has --

15 Q We're losing sound a little bit on you.

16 A All right. Can you hear me now?

17 Q Now you're good. We can hear you.

18 A It almost sounds like a siren or something.

19 But anyway, so they then order a study. Now,
20 if you see something that is -- goes right along with
21 what they think, you either -- depending on the
22 situation, you send a fax, you call them, you dictate a
23 report. If you see something that's totally unrelated
24 but significant, you may try to get some additional
25 information about whether the patient has some clinical

1 signs and symptoms that could relate to what you're
2 seeing, and in that situation you may communicate with
3 the patient, with the people in the ER, the doctor's
4 office, the doctor himself.

5 But if I understand your question, you're
6 primarily asking is it the referring physician or the
7 radiologist that gets most of the history from the
8 patient? Is that the question?

9 Q It's actually a little bit different.

10 A Okay.

11 Q And I think it's understood, but you tell me if
12 I'm wrong. I think the idea is that the referring
13 physician is the primary person to look at a patient's
14 symptoms and determine whether they may or may not have
15 an AEF.

16 A That's correct, I think. Because they then
17 order a study and ask us to confirm it or not confirm
18 it. That's correct.

19 Q Okay. Based on, then, you know, your knowledge
20 and experience with AEFs, are you familiar with how
21 quickly they manifest after an initial leakage of blood
22 at a graft area?

23 A I don't think there's a specific, immediate
24 time relationship. In other words, you know, people
25 have a graft and the problem may not occur for two,

1 three, four, five years. When you get a little bit of
2 leakage, as I said before, the clinical symptoms vary.
3 It may be asymptomatic. It may be that they get blood
4 in the stool. So -- and when that's discovered -- now,
5 if it's something massive, they may get some symptoms
6 earlier than later. So I think there's really a
7 continuum. It's not there's a leak today and they get a
8 symptom today.

9 Is that the kind of question you're asking?

10 Q It is. And actually there are sort of two
11 questions which I want to make sure we tease out and see
12 what your answers are.

13 A Sure.

14 Q I think I understood my -- the first question I
15 was asking was, assume at time one we start to have some
16 kind of a leak. And then the question was, how soon
17 after time one would you have a symptom of that kind of
18 leakage?

19 And I think I understood your answer to be it's
20 sort of a continuum and it could be very quickly that
21 one would have a symptom, or it could be even a matter
22 of, you know, days and weeks after.

23 A Yeah. Or even longer, yes.

24 Q Okay. Then the next question I want to tease
25 out is you indicated that sometimes you wouldn't get

1 this leakage until years after a graft is put in place,
2 right?

3 A Yes.

4 Q And do you have an understanding of the medical
5 literature, of what it says that continuum is of time in
6 which one could get a graft and then subsequently have
7 an AEF?

8 A I'd have to look that up to get -- to see what
9 the articles have talked about. I know that it's -- can
10 be years. I'm talking five, six years. I don't know
11 whether there are articles in the literature or case
12 reports where people have described it ten years down
13 the road. That I don't know.

14 Q Okay. You know, if I proffer to you that there
15 are case studies which say it could manifest itself as
16 many as ten years and even up to 20 years after the
17 placement of the graft, would you have any basis to
18 disagree with that?

19 A No, sir.

20 Q You described an AEF as involving a leakage
21 into the bowel area?

22 A Yes.

23 Q Are you familiar with AEFs where there actually
24 is a rupture at the graft area?

25 A Well, there can be a rupture of the graft, yes.

1 There can be -- a pseudoaneurysm forms and then that
2 ruptures.

3 But, you know, rupture is a -- I wouldn't want
4 you to interpret rupture as something super special from
5 an erosion. I mean, it's a continuum. You have to have
6 a break in the graft for blood to get out. So whether
7 it's a little like a pinhole or there was a
8 pseudoaneurysm and for some reason it really ruptures, I
9 think that's a continuum, also.

10 Q And I guess where I wanted to go next was to
11 ask you about clinically how a patient would present on
12 both ends of those spectrums. So, for example, if I had
13 a patient that was just having a small leakage, would
14 that patient appear different as opposed to someone that
15 had a rupture where there was actually a significant
16 flow?

17 A You know, I think that I'm probably not
18 qualified to answer that. You'd probably have to ask
19 one of the clinicians, and you could probably read more
20 literature to get detail on that.

21 I'm not -- I know -- all I really know is that
22 the symptomatology really varies. And I'm not sure how
23 much of the symptomatology relates to the extent of the
24 break. You know, teleologically you'd think a bigger
25 break would give you more symptoms, but I've not really

1 thought about that in that way before.

2 Q Okay. Sir, are you familiar with what the
3 medical literature says about the incidence rate of
4 getting a secondary AEF?

5 A I don't think it's that common. I think it's,
6 you know, less than 5 percent.

7 Q Okay. If I proffer to you that the medical
8 literature says it's even as low sometimes as .4 percent
9 in people who have gotten grafts, would you have any
10 reason to quibble with that?

11 A Well, you know, again, I would review the
12 literature in detail and try to check the different
13 populations that each study is based on, the type of
14 grafts that were done, was it open surgery, was it
15 endovascular and so forth. But if you tell me there are
16 studies out there that say, "With X type of procedure we
17 followed the patient for two years and we have this
18 percent," I wouldn't disagree with that. Obviously, the
19 longer the follow-up, the greater the percentage might
20 be. But, again, we can review the literature together
21 or separately and find that out.

22 Q Okay. But at the very least, you'd agree that
23 getting a secondary AEF is somewhat of an uncommon
24 phenomenon?

25 A It's -- like I said, it's -- certainly in my

1 experience, it's less than 5 percent. That's uncommon
2 but not rare.

3 Q Are you aware, sir, about what the medical
4 literature says as the best way to diagnose whether
5 someone is having a secondary AEF?

6 A Well, I know what we do, and I know that when I
7 reviewed the literature in terms of this little quick
8 review that I talked about and, you know, you read a
9 couple of articles and you say what's the methods and so
10 forth, it's all about the same.

11 Depending on the degree of suspicion, if
12 somebody has, for example, a history of aortic surgery
13 and has blood in the stool, I have had cases where
14 people say, "Please evaluate for an AEF." In that case
15 we would probably do some relative sophisticated CT
16 imaging with arterial phase imaging, delayed vascular
17 imaging, millimeter-size cuts, so forth.

18 If, on the other hand, someone says, "You know,
19 he did have aortic surgery. There's no blood in the
20 urine, but we're thinking we're not sure what's going
21 on," you would do a routine CT with oral and intravenous
22 contrast.

23 So those are probably the two major ways that
24 people look at this. I don't know whether that's the
25 question -- answer --

1 Q Well, yeah. I'd asked you whether you're
2 familiar with what the studies show is the best way to
3 diagnose an AEF.

4 A Well, the -- again, my experience is -- and I
5 think this is what other people have found -- that when
6 you do the CT with oral and intravenous contrast,
7 intravenous contrast is the only real way to see an
8 actual leak and be able to say this is an AEF and the
9 blood is going in the duodenum or the colon or part of
10 the jejunum. I mean, that's the only way to do that, is
11 with intravenous contrast.

12 And so the, quote, best way would be
13 intravenous contrast, thin sections, delayed vascular
14 imaging and so forth. That's the best way.

15 There are other secondary signs that you can
16 see, such as tissue -- fluid or soft tissue density
17 outside the graft. And you can see that. And, again,
18 the best way to see that is if you have contrast in the
19 vessel and contrast in the bowel so that you can say,
20 "This is bowel, this is vessel, and, look, there's some
21 abnormal tissue."

22 Because very often the bowel is right next to
23 the vessel -- I mean, that's how a fistula eventually
24 happens -- but it's right next to the vessel, and when
25 the bowel is collapsed, you can't differentiate often

1 bowel from tissue, you know, next to it that's not
2 bowel. And other things such as is the wall thickened
3 and things like that, you need contrast. So those are
4 the best ways.

5 Q Okay. Doctor, in your practice throughout your
6 career as a radiologist, have you ever specifically been
7 called on by a referring physician to determine whether
8 someone is having an AEF?

9 A Yes.

10 Q Okay. And can you give us any estimation as to
11 how many times that's occurred in your career?

12 A Not a lot. Early on in my career, you know,
13 whether it was five times -- I mean, it's not common. I
14 didn't take call every day, you know. Other people took
15 call.

16 Later in my career when I was doing some
17 additional bleeding-type studies, I was involved. But,
18 you know, really it's probably less than ten in my whole
19 career that someone specifically said, "We have a case
20 of AEF that we -- we think it's AEF, and we want you to
21 help document it."

22 Q Okay. And I think you might have answered my
23 next question, but the question is, when the referring
24 physician makes a referral to you, do they explicitly
25 tell you they have some suspicion of AEF?

1 A No, they don't. I mean, that's -- I would
2 guess that -- well, I would think more times than not
3 that AEF is potentially in the differential. But as
4 often as not, you've got a question of abdominal pain or
5 nonspecific pain or something and you know the patient
6 has had aortic surgery, so you may -- you then find
7 something which suggests AEF.

8 So in that sense, in the real clinical world,
9 the question of, "I'm a hundred percent sure there's an
10 AEF. Please do a CT to document it so we can go in and
11 do surgery" is probably not the question.

12 Q Yeah. And, again, I just want to make sure I
13 understood what your answers were. You said that I
14 think there were -- there were less than ten instances
15 in your career where you were called upon to see whether
16 there was AEF or not. In those, you know, less than ten
17 instances, is that what you're saying you were expressly
18 told, "We think this is AEF. Please confirm that and
19 then we can go intervene"?

20 A Yeah. I mean, that's -- well, not, "We" -- I
21 mean, those cases that I was talking about, when you
22 said there was a clinical request for AEF, I'm saying
23 that's not the most common request -- most common reason
24 that you see an AEF, that's correct.

25 More often than not, the patient has some

1 symptoms and someone will say, "Abdominal pain, past
2 history of aortic surgery." That's different than them
3 saying, "I'm sure it's an AEF." Because there are
4 mimics.

5 Q I understand your answer.

6 A Okay.

7 Q So, Doctor, when these cases presented -- and
8 when I say "these cases," I mean the less than ten where
9 they were somewhat convinced it was AEF and even the
10 ones where it's nondescript abdominal pain. In those
11 instances, are those patients -- were those patients
12 coming to you on an outpatient basis, or were they
13 referred from an inpatient status?

14 A I'm not sure, actually. I know we get them
15 from the ER, and the ER -- you know, people nowadays
16 come into the ER with a whole spectrum of severity of
17 symptoms, if you will. I'm -- you know, I'm not sure.
18 I'm sure some come inpatient, some outpatient.

19 Q Okay. In speaking about those instances where
20 there was more of a determination that it might be AEF,
21 so that less than ten cases, can you tell me what
22 diagnostic study did you subsequently do to determine
23 that?

24 A Well, most of the studies were fairly standard
25 CT with oral and intravenous contrast.

1 Q Do you use any diagnostic studies other than CT
2 with contrast?

3 A Well, you can do -- you know, you can do an
4 arteriogram, contrast arteriogram. You can do -- and,
5 again, the studies that are done with extra attention to
6 the vascular system where you do, you know, maybe a
7 non-contrast, then an early arterial phase study, then a
8 delayed vascular study, those have been in the last
9 five, seven, ten years as the equipment has gotten
10 better and better and you can do faster acquisitions
11 with thinner sections.

12 So, you know, I would still say that the
13 overwhelming majority of my experience and, you know,
14 cases that I would see at a conference in the last ten
15 years have been CT with oral and intravenous contrast,
16 just a standard CT.

17 Q Okay. And, Doctor, when you subsequently do
18 that diagnostic study and get an image back, you as the
19 radiologist, if you're looking for AEF, are looking for,
20 as I understand it, air in a certain area, fluid, and
21 maybe to a lesser extent thickening of arterial walls,
22 right?

23 A Well, there are a lot of AEFs that are
24 associated with infection. So to the extent that there
25 may be an infection present also, you're seeing, you

1 know, air in the tissues around the graft, sometimes
2 even within the graft. You are seeing fluid and/or what
3 we call soft tissue.

4 You know, on a plain X-ray fluid and tissue
5 look about the same. On a regular CT -- not regular --
6 you know, standard CT, you get -- we measure Hounsfield
7 units, which is a way to check density, and sometimes
8 it's hard to tell between fluid and tissue and you use
9 some density measurements.

10 But those are the kinds of things you're
11 looking for, is -- I mean, you're always looking for a
12 pseudoaneurysm, but you're basically looking for air,
13 thickening of tissue between the bowel and graft, and
14 then subsequently, you know, is the bowel wall thicker
15 in different progressions.

16 Q Okay. And then I think to a certain extent you
17 agreed you're looking for air, fluid and thickening,
18 right?

19 A Well, it's soft tissue. A thickening is extra
20 soft tissue density. That's correct. That's different
21 than making a specific, "The wall of the bowel is
22 thicker."

23 In other words, if you see a focal thickening
24 in -- in order to do that, usually you need contrast,
25 either air or barium or iodinated contrast in the bowel,

1 okay? So -- because then you would see the bowel. And
2 if you can judge that the wall is thick focally right
3 next to an area where you may think there's soft
4 tissue -- extra soft tissue or fluid and here's the
5 graft, then you're saying, "Hey, something's going on
6 there, and maybe something was starting to erode and the
7 bowel wall tried to wall it off."

8 That's why some of these patients have
9 something called a herald bleed. You know, they'll have
10 a bleed, and people say, "Oh, I don't find anything,"
11 and later on, whether it's days, weeks, months later,
12 maybe something else will happen.

13 But that thickening -- if you use the word
14 "thickening" and you mean bowel wall thickening, that's
15 different than increased soft tissue or fluid density in
16 the perigraft area.

17 Q Okay. Thank you, Doctor. I appreciate that --
18 that clarification.

19 Other than those things, is there anything else
20 that you would be looking for as a radiologist on a CT
21 image to determine whether there is or isn't an AEF?

22 A Well, yeah. I mean, if -- if you have the --
23 if you've given contrast, which really all of them I've
24 seen have had contrast. But you're seeing if there's
25 any contrast actually in a bowel loop.

1 Q Yeah, in terms of extravasation of contrast?

2 A Yeah. Yes.

3 Q Anything else other than that?

4 A You know, I mean, there are things that people
5 have talked about which I don't think I've ever seen
6 particularly. You know, depending on the surgery, if
7 you've got a -- if you've got a lumen, you know, and
8 you -- a lumen, you know, a graft lumen and you put in a
9 graft, then you can wrap the -- if there was an aneurysm
10 and that's the reason you did the surgery, you can --
11 they kind of wrap the aneurysmal tissue around the
12 graft, and sometimes you get tissue between that. But
13 that's something I've not seen personally and -- but
14 I -- you know, so what I told you is what people look
15 for.

16 Q Okay. Thank you, Doctor.

17 And so to go back and just talk about some of
18 these things that you said that a radiologist would look
19 for, I think one of the first things we talked about was
20 air in a certain area. Could you just tell me, from a
21 layperson's perspective, what does that mean, that there
22 is air in there?

23 A Well, sure. If you have air where it doesn't
24 belong, so -- you swallow air and it gets all into your
25 intestinal system, so we see air in the intestine all

1 the time, stomach, small bowel, large bowel. If you see
2 air where it doesn't belong, then you ask yourself, "How
3 did it get there?"

4 And it can get there because it leaks out of a
5 structure that has normal air. You can get it because
6 air came to that from the outside in some way. I mean,
7 you get a bullet wound and there's a hole and air gets
8 in. You can develop an infection, and many organisms
9 produce gas, so you can see gas or air from an
10 infection.

11 So those are the common reasons you see air.

12 Q When you get it in an aorta --

13 A Well, you'd see it in the wall of the aorta
14 primarily. You wouldn't -- I mean, you don't see air in
15 the midst of flowing blood, normally.

16 Q Yes. But you see it because there's some
17 rupture there, right?

18 A Well, the rup- -- the air wouldn't come from
19 the rupture of the aorta, because the aorta does not
20 have air in it.

21 It would come either from a rupture of the
22 viscus, of the bowel, where something made a hole and
23 air got in it. It would come because there was an
24 infection. Infection is one of the ways that AEFs
25 occur, because you get an infection and the infection

1 erodes just like any infection anywhere. Some produce
2 gas. So -- again, not every organism produces gas. So
3 if you saw air, it could come from an infection. Post
4 surgery, when you're open, air gets in and it absorbs.
5 So -- but it doesn't -- you wouldn't normally see air
6 just when the aorta erodes.

7 Q Okay. That's helpful.

8 With respect, then, to fluid, if you're a
9 radiologist looking for fluid to determine whether there
10 is or isn't an AEF, what exactly does that mean? What
11 fluid are we talking about?

12 A Well, the fluid that you would potentially see
13 might be blood that has clotted or infiltrated through
14 some tissue. The problem is in most cases you can't
15 really separate fluid from just soft tissue stuff, from
16 a reaction to fluid. It's -- it's just not clear.

17 And so -- now, there are times, if you were to
18 get an infection and it produces an abscess, say, and
19 you get a lot of fluid, that becomes easier to see;
20 because not only might it look a little different, but
21 you're doing Hounsfield units and you can see low
22 Hounsfield units usually mean fluid.

23 Q Okay. And if the fluid is blood, where is that
24 coming from?

25 A That's coming from the vessels.

1 Q And where the rupture is or the leak is, it's
2 leaking out into the soft tissue area?

3 A That's exactly right.

4 Q When you do a CT scan without contrast, you can
5 see by comparing the Hounsfield density rates air or
6 fluid, right?

7 A Well, it's not always clear, because,
8 depending -- you know, fluid infiltrates into tissue,
9 and so often you can't separate them. There -- there's
10 overlap.

11 Q But you would agree many times you can? In
12 certain circumstances --

13 THE COURT REPORTER: I'm sorry. I'm sorry.
14 I'm sorry. Can you repeat that? There were a
15 couple words that just got --

16 MR. MEDINGER: Sure.

17 Q The question was, you would agree that you
18 could see in certain circumstances on a CT without
19 contrast air or fluid?

20 A Air you could certainly see if it was there,
21 depending on the amount, but it is possible to see that.
22 Again, a small amount you may not see. You may not see
23 a small amount even with contrast.

24 But in terms of fluid, a lot of times you can't
25 tell, quote, fluid from soft tissue, from tissue

1 density.

2 Q Yeah. And you prefaced it by saying "a lot of
3 times." There certainly are times when you can see --

4 A Sure. I am sure --

5 THE COURT REPORTER: I'm sorry. I missed --

6 THE WITNESS: He said "a lot of times."

7 THE COURT REPORTER: But he's going on.

8 THE WITNESS: Oh.

9 THE COURT REPORTER: I'm sorry.

10 MR. MEDINGER: Sure. I just, you know, wanted
11 to clarify because the Doctor prefaced his statement
12 by saying "a lot of times."

13 BY MR. MEDINGER:

14 Q And the question was, well, does that mean,
15 then, that there are some times in which, without using
16 contrast, a radiologist can see fluid?

17 A Sometimes I think so. Again, qual- -- qual- --
18 whatever the word is -- qualifying that by saying the
19 more there's there, the more you can see.

20 Q And, now, I think you said that when you're
21 looking for an AEF and you add contrast, you're doing
22 that intravenously and sometimes orally as well, right?

23 A Yes.

24 Q Okay. And let's stick with just the
25 intravenous contrast. As I understand it, if you put in

1 intravenous contrast and there is a leakage or a
2 rupture, there is an AEF, you will see that on a CT scan
3 as an extravasation of that C- -- of that contrast out
4 from the vessel area into soft tissue area. Is that
5 right?

6 A That's what you can see. I don't think that on
7 every single study in which there is an AEF you will see
8 that. I mean, I'm sure there's a case in which it's
9 just too small.

10 You know, remember, it's a volume thing,
11 because X-rays are going through and you need a certain
12 volume to see anything. But most of the time if there
13 is an AEF and you do a CT with contrast, you will see
14 leakage, that's correct. If it's an active leak, you
15 will see it. You will not see every one, because there
16 are some volume limitations. But without contrast you
17 can't see it at all.

18 Q Sir, with respect to -- just speaking to these
19 less than ten cases that you were referred when they
20 said there was some high likelihood of AEFs, of those,
21 you know, less than ten, what percentage of them did you
22 actually concur and say, "Yes, I think there is AEF
23 there"?

24 A I don't remember.

25 Q I mean, is it a great likelihood that you

1 concurred? Do you have any estimation --

2 A Yeah, I --

3 THE COURT REPORTER: He didn't finish. But go
4 ahead.

5 A Do I have an estimation? More than half.

6 Q And then speaking, sir, generally of that
7 entire population, not only just the less than ten where
8 there was some definitive idea that there was AEF but
9 also those ones where you were referred just for
10 nondescript abdominal pain, of that patient group where
11 you did some diagnostic studies, do you have any sense
12 of what percentage of those patients ultimately you
13 determined had AEFs?

14 A Well, again, the first issue is, when you ask
15 about all of the CTs I've been involved in with
16 abdominal pain or vague abdominal symptoms, or the
17 person who has other symptoms and they order a study,
18 you know, the number of AEFs are small.

19 So, I mean, you're not going to a priori and --
20 if you do a thousand CTs, you know, are 25 of those
21 patients going to have had aortic surgery? Probably
22 less. Maybe 20. You know, so the number of patients
23 with aortic surgery is a smaller percentage than the
24 bigger population of people with abdominal complaints.
25 But when you start getting into, you know, look

1 at the patients with prior abdominal surgery, we've
2 already said that the number of those -- I don't mean
3 abdominal surgery; aortic surgery -- we've already said
4 that the number of those that get AEFs are small, also.

5 So then you're saying, "Okay, if I do this
6 study in those patients, how many of those that truly
7 have AEFs will I see who have CT findings with oral and
8 intravenous contrast?" And, again, I think it's in the
9 80 percent range.

10 If you have patients that are specifically
11 referred because we think they have an AEF, then you're
12 in the high 80s, maybe even 90. And if it's ones that
13 have vague problems but they do end up having an AVF
14 [sic], it's probably in the low 80s, that kind of
15 numbers.

16 Q I understand, Doctor, that -- I'm sure it's a
17 very small number. And I guess what I'm -- maybe the
18 better way to ask it is, is there any estimation you can
19 put as to the number of patients with whom you have
20 determined, based on a diagnostic study, that, yes, they
21 have AEFs?

22 A No.

23 Q Is it less than 20?

24 A Absolutely.

25 Q Okay. And likely less than 10?

1 A You know, I've had a long career, and I -- you
2 know, we're talking not big numbers. And, again, I just
3 want to be real clear that as an individual radiologist,
4 the number of AEFs you're going to see in your career is
5 not going to be high. So...

6 Q Yeah, I appreciate that, Doctor.

7 So I understand it, is it the radiologist's job
8 to ultimately make the diagnosis of an AEF, or is that
9 something that, again, you'd refer to another specialist
10 to ultimately say, "Yes, this is what his condition is"?

11 A Well, the way you make that diagnosis, frankly,
12 is, A, if you've done intravenous contrast and you see a
13 leak, the radiologist is going to say -- and the leak is
14 in the bowel -- then he's got an aortoenteric fistula
15 and the radiologist is making that diagnosis.

16 If the radiologist sees other things, increased
17 perigraft fluid, et cetera, et cetera, he's going to say
18 AEF should be strongly considered -- this is without
19 seeing the leak -- and he may even say perigraft
20 infection and/or AEF, and the diagnosis is made at
21 surgery. I mean, so somebody else is making the
22 diagnosis, the surgeon usually.

23 Q Okay. In those cases in which it was
24 determined that these patients that you saw were having
25 an AEF, do you recall what would be the subsequent

1 treatment plan, if any?

2 A That's something that I don't get involved in.

3 Q Okay. Who would be the individual who would
4 then subsequently follow up for treatment options?

5 A Well, usually -- again, if it's -- if it's --
6 usually I would think it was the surgeon who did the
7 study or somebody of similar ilk. I mean, if you get it
8 from the ER and they're -- you know, they maybe ask for
9 a surgical consult but they're doing the study before
10 the surgeon even gets involved, then they're going to
11 refer it to the surgeon, but I assume it's the surgeon
12 who does it.

13 But it's a good question, and I'm not -- I'm
14 sure we could find out who treats those mostly, but I
15 think it's almost certainly the surgeon.

16 Q Okay. And this might foreclose my next
17 question, but let me ask just to make sure. Do you have
18 any idea for what the mortality rate is for people with
19 AEFs post surgery?

20 A I do -- no, I don't specifically know. I do
21 know that if you suspect it, it's one of those things
22 that you have to pick up the phone and call somebody.
23 It's not something that you just dictate in your report.
24 You know, it's a serious issue, so you've got to deal
25 with it expeditiously.

1 Q I asked you a couple questions earlier, Doctor,
2 about instances where you were specifically referred
3 patients to look for a suspected AEF or, you know,
4 abdominal pain issues, things of that nature.

5 I want to present a different scenario to you
6 and see if you have any experience with it, and that
7 specifically is, have you ever been referred a patient
8 for something not related to abdominal pain or AEF but
9 were doing diagnostic studies of areas in which grafts
10 were done and subsequently you made the determination
11 independently that what you're seeing on the CT image
12 might be concerning for AEF?

13 A I'm not sure. You know, when something is
14 as -- not as common as this entity -- over the years
15 I've seen, you know, certainly as many cases at M&M
16 conferences or, you know, surgical rounds or whatever
17 than I've personally been the one to dictate the report.

18 And, you know, I would suspect that
19 occasionally you're doing a case for kidney stones or
20 you may even be doing a -- well, not necessarily for a
21 spine, but you might, you know, a CT of the lumbar spine
22 and they include the abdomen and somebody was to see,
23 you know, an abdominal infection, you know, you would
24 probably say something, and maybe one of those ended up
25 to be AEFs, you know, or perigraft infection or

1 something. But I would guess that occasionally you see
2 that.

3 Q Yeah. And when you said it would be -- the
4 idea that the radiologist would say something, are you
5 saying that you as a radiologist, if you saw something,
6 wouldn't yourself sua sponte give a diagnostic study
7 that you thought would diagnose AEF or are you saying
8 you'd rather confer with the referring physician first?

9 A Oh, that's been changing over the past three or
10 four years. I mean, it used to be we could do anything
11 we wanted to do. But certainly if you are doing a study
12 and you can -- I mean, I don't need to beat around the
13 bush. If you're doing a study for a renal stone and
14 you're doing a non-contrast stone protocol, if you were
15 to see something that were suspicious to you of
16 something else, you would -- depending on how concerning
17 it was, you would either dictate it in your report, you
18 know, "There's no renal stones, da-da-da-da-da, but I
19 notice," you know, "there's something of concern in the
20 liver, and you may want to check for a liver tumor or
21 something like that." And you probably would not do an
22 immediate study, okay, yourself.

23 And in the last couple of years, I mean, you
24 cannot -- you can't breathe without getting a
25 countersigned order from the referring physician. I

1 mean, it's really -- it's a whole separate topic which
2 we can talk about.

3 Q Yeah. I think we'll save that maybe for later,
4 Doctor, but I appreciate your answer.

5 I want to switch gears a little bit and talk
6 about what you just mentioned just at the end about a
7 renal stone study.

8 A Uh-huh.

9 Q And particularly you've been called on as a
10 radiologist to do renal stone imaging studies, right?

11 A Yes.

12 Q Okay. And just for the record, can you tell us
13 what renal stones are?

14 A Well, the kidney clears various materials from
15 the body. So like I tell the students, you drink a lot
16 of beer, it goes to your kidneys and out in the urine.
17 But it clears lots of other things.

18 And to the extent that in the kidney there are
19 concentrations of various atoms and molecules, many of
20 which will coalesce to form stones, calcium oxylate,
21 carbonate -- there are a variety of materials that get
22 excreted, and in the right situation, too much acid, too
23 little acid, they can form stones. That's what a renal
24 stone is.

25 And so most of that are small and tiny and you

1 urinate them out. Some get a little bigger and may
2 cause a little bit of blockage in the area where it's
3 excreted. So the kidney does all these things and the
4 urine comes out of the kidney down the ureters into the
5 bladder and out through the urethra. To the extent that
6 you get a stone, it can block really anywhere in that
7 system, usually the narrowest part, so the most common
8 is in the ureter. And that's a kidney stone.

9 Q Thank you, Doctor.

10 And so what kind of symptoms does someone have
11 or manifest when they're actually having these renal
12 stones?

13 A Okay. Well, there are a variety. Some people
14 have pain in the groin, severe pain in the groin. Some
15 people have flank pain in the back where the kidney is
16 because there's increased pressure. Some people will
17 have blood in the urine. So there are a variety of
18 symptoms of stones.

19 Q Okay. Would you agree that an acute onset of
20 flank pain is consistent with renal stones?

21 A Yes.

22 Q Are you aware of what the medical literature
23 says about the incidence rate for people to develop
24 painful kidney stones?

25 A You know, that's one that I'm not so sure

1 about. I think it's -- I don't know. You know, of the
2 whole population I don't know.

3 Q Would you say it's relatively common?

4 A It's -- you know, "common" is, again, a
5 relative term. Do I think half the people have kidney
6 stones? No. Do I think 10 percent of the population
7 has kidney stones? Probably not. Do I think 5 percent
8 have them? Maybe. I don't know. So you can tell me,
9 because I bet you've looked it up.

10 Q I have. We can talk about it later.

11 A Okay.

12 Q In your experience, does a patient -- a
13 patient's age affect the likelihood that they will
14 actually have kidney stones?

15 A Well, again, in my experience I don't see
16 kidney stones very -- I don't -- we do -- I have always
17 been at a place where we do a lot of pediatrics, and I
18 think kidney stones are not very common in the pediatric
19 and the young teenage population, and I think that it
20 begins to increase -- you know, we see 25- and
21 30-year-olds and 40s. So, you know, I think that,
22 again, you can probably look at the literature. My
23 experience would be that you see it in 50-year-olds a
24 lot more than you see it in 20-year-olds.

25 Q Okay. Thank you, Doctor.

1 And can you tell me what steps you as a
2 radiologist take to diagnose whether someone's having
3 renal stones or not?

4 A Well, most of the time the clinician says, "We
5 suspect a renal stone," and we do a renal stone CT
6 protocol.

7 Q And can you describe for me what that renal
8 stone CT protocol entails?

9 A Well, we tend to do a non-contrast CT, that's
10 no oral, no intravenous, and we do relatively thin
11 sections. Every place is a little different, depending
12 on, again, the equipment you have and so forth, but
13 basically it's a CT going from above the kidney all the
14 way through the bladder area.

15 Q Okay. And why is it important not to use
16 contrast with a renal stone protocol?

17 A Because many stones are opaque, and so you
18 don't want to have a stone in the ureter that would
19 stand out and then coat it with contrast, coat the whole
20 ureter with contrast, and not be able to see it.

21 MR. MEDINGER: Okay. Doctor, I want to
22 transition now to the opinions you have in your
23 expert report, but would you like to take a five- or
24 ten-minute break before we do that, or would you
25 like to press on?

1 THE WITNESS: Whatever you like.
 2 How about I just take one second and go get a
 3 Diet Coke and then we'll keep going.
 4 (Break taken.)
 5 MR. MEDINGER: Okay. So we can go back on the
 6 record, then.
 7 Doctor, I'd like to mark as Exhibit 2 to this
 8 deposition your expert report which we faxed to you.
 9 And I'll say what Exhibit 2 is going to be -- the
 10 first page is just your report and then the second
 11 page will be that list of prior testimony that you
 12 have there.
 13 (Defendant's Exhibit Number 2 was marked for
 14 identification.)
 15 THE WITNESS: I have them.
 16 BY MR. MEDINGER:
 17 Q Okay. Thank you, Doctor.
 18 You recognize, obviously, Exhibit 2 as a copy
 19 of the report that you did in this case?
 20 A Yes, sir.
 21 Q And you typed up this report?
 22 A Yes, sir.
 23 Q I'd like to ask you, first, just to confirm --
 24 in the fourth paragraph you talk about the materials
 25 that you reviewed. Listed there is all the materials

1 that you reviewed in forming this report, right?
 2 A Yes, sir.
 3 Q Okay. You indicated that you looked at CT
 4 studies from 2006 from the VA, correct?
 5 A Yes, sir.
 6 Q Do you recall what your impression of that
 7 study was?
 8 A You know, I really don't. I -- I looked at it.
 9 It wasn't C- -- it was a CT with contrast, and, as I
 10 remember, it had -- he'd had surgery, and it was an okay
 11 study. And there may have been some little things --
 12 you know how radiologists give impressions and there are
 13 the main things and then a few other things. And there
 14 may have been a few other things, but I don't remember.
 15 It wasn't germane to what I was asked.
 16 Q Certainly.
 17 You don't remember seeing anything on that CT
 18 that was done with contrast that might be concerning for
 19 AEF; is that right?
 20 A I did not.
 21 MR. MEDINGER: Okay. And let's go off the
 22 record for just a second.
 23 (Off-the-record discussion.)
 24 MR. MEDINGER: And just for the record, Doctor,
 25 you're currently looking --

1 THE COURT REPORTER: Oh --
 2 MR. MEDINGER: -- on on your computer --
 3 THE COURT REPORTER: -- but we're off the
 4 record.
 5 MR. MEDINGER: Oh, yeah, we're off the record.
 6 THE COURT REPORTER: We've been off the record.
 7 MR. MEDINGER: I'm sorry.
 8 MR. MEDINGER: I want to go on the record.
 9 THE COURT REPORTER: Okay. Okay.
 10 THE WITNESS: All right. What I have here --
 11 THE COURT REPORTER: But he didn't ask a
 12 question.
 13 THE WITNESS: Oh.
 14 THE COURT REPORTER: Go ahead.
 15 BY MR. MEDINGER:
 16 Q So, Doctor, I'll just set the scene so we have
 17 it for the record here.
 18 So for the record, Doctor, you're looking at
 19 your computer, and in your computer you have put a CD
 20 containing the CT images taken of the decedent,
 21 Mr. Johnson, on 1/31/2006 at the VA, right?
 22 A Yes, sir.
 23 Q Okay. Looking at those CT images, are you able
 24 to see anything that is concerning for AEF?
 25 A My answer before we went off the record, I

1 think, was that I didn't specifically see anything. But
 2 you asked me to relook at them, which is what I'm going
 3 to do.
 4 Okay. Let me just tell you what I did. I just
 5 went through -- there's an early arterial, and then
 6 there's a delayed set of images --
 7 Q Yes, sir.
 8 A -- from 1/6 [sic].
 9 MR. MEDINGER: Sorry, Doctor. Real quick, is
 10 Madam Court Reporter taking this part down?
 11 THE COURT REPORTER: Yes.
 12 MR. MEDINGER: Okay, good. I just didn't see
 13 your -- I guess your hands were on another little
 14 area there. I didn't see them on the computer.
 15 THE COURT REPORTER: Okay.
 16 BY MR. MEDINGER:
 17 Q Okay. Thank you, Doctor. Continue.
 18 A Okay. And when you look at a CT, you go --
 19 everybody does it differently. I happen to look at one
 20 area, then I go up and look at the liver and come down
 21 and look at the spleen and come up and look at the
 22 pancreas. Everybody has -- some people look at
 23 everything on each individual image.
 24 What I just did on both of those sets is go
 25 over the aorta into the bifurcation and up in -- you

1 know, several times -- and the adjacent areas I didn't
2 look at other things.

3 There's nothing on this that would suggest to
4 me that there's an infection or an AEF, okay? One of
5 the things that was taking me a little time is there's a
6 lot of air in the bowel here, a lot of air. And the
7 bowel in this case is right next to the graft in the
8 aorta. So, you know, you were asking about air, and
9 that's where air is. And it was all enclosed in bowel
10 loops.

11 There could have been a little more contrast in
12 the bowel on this study, but -- so I don't see anything
13 on 1/6 -- 1/31/06.

14 Q Okay. And you mentioned, Doctor, that you
15 noted air in the bowel?

16 A Uh-huh.

17 Q Is there more air than you would usually expect
18 in a normal patient?

19 A It's variable. Big variation.

20 Q Okay. You mentioned specifically -- was there
21 extensive air, to your opinion?

22 A No, I'm just mentioning that there was --
23 sometimes there's very little air. And since you had
24 asked me about -- that one of the things we see is air
25 outside the lumen, so I was looking extra carefully.

1 That's all.

2 Q And can you say how air does get into the
3 bowel?

4 A Well, most of the time it's swallowed.

5 Q Doctor, can I ask you, then, to exit that CD
6 and put in the 2007 --

7 A Yes.

8 Q -- VA study?

9 A Yes. Actually, that one is on this same CD.

10 Q Okay. Good.

11 A Okay. I have it here in front of me.

12 Q Okay. When you either initially looked at that
13 study, or if you want to review it again now, the
14 question will be the same. Do you see anything on that
15 study that is concerning for AEF?

16 A The answer is that adjacent to the graft on
17 several slices there is tissue density, which on this
18 study I would not look at this and say, "This is an
19 AEF."

20 One of the things is that some of this soft
21 tissue density, you -- I can't tell, even going up and
22 down, that it's definitely bowel. Most likely it is
23 bowel, but that's the limitation of a non-contrast
24 study, that I can't see the wall of the aorta and I
25 can't see at that location a clear definition of

1 duodenum. So what -- what you would dictate on this
2 study is that, "Given the limitations of non-contrast
3 study, I don't see anything."

4 Now, what you're primarily looking at in this
5 is looking for renal calculi. And you don't see any of
6 those. So you'd say, "No renal calculi, and I don't see
7 anything else."

8 Q Okay. You mentioned something about tissue
9 density. How are you able to determine that from
10 looking at that?

11 A Oh. Everything that's gray is tissue, water --
12 you know, there are only four densities: air, fat, water
13 and bone, or metal. Those are the only four densities
14 you see.

15 So fluid in the aorta; fluid, tissue out --
16 the wall of the aorta; fluid or tissue outside the
17 aorta; bowel wall; fluid or stool in the bowel; they
18 would all look the same. What doesn't look the same is
19 air in the bowel and fat in the abdomen. Some people
20 are fatter than others. This patient's not very fat.

21 So that's what I meant you can't tell. So
22 there is some density next to the aorta. It could be
23 vessel -- I mean, it could be bowel.

24 Q Yeah. And, Doctor, my question actually was a
25 little different. It was, how are you able to tell that

1 there was some remarkable tissue density adjacent to the
2 graft area?

3 A I wasn't necessarily saying remarkable. Only,
4 as you know, many people would say the whole human body
5 is remarkable. In the sense that -- I was just
6 commenting that there's tissue there.

7 Q Okay. So you're not saying it is --

8 A No.

9 Q -- remarkable one way or the other?

10 A No. No.

11 Q Okay.

12 A I don't want to teach you too much about
13 interpreting X-rays. You have your job; I have my job.

14 Q Doctor, looking at those images, were you able
15 to see any air around the graft area?

16 A No, sir.

17 Q Looking at those images, were you able to see
18 any fluid around the graft area?

19 A Well, again, there's density there. I don't
20 know what that density is.

21 Q And the possibilities are either tissue or --
22 are you suggesting that possibly it could be fluid?

23 A Could be anything, that's right. It's -- what
24 I'll tell you is it's not fat, it's not air, it's not
25 bone.

1 Now, again, you look at things, and you look at
2 shapes, and some things you can tell. You can see the
3 liver and you say, "Well, I see that density, and
4 it's -- you know, the shape is of the liver, the
5 location. There's some fat around it, so I can see an
6 edge. That makes that liver."

7 Same thing with kidney. I see some shape.
8 There's fat around it, so the fat outlines the tissue of
9 the kidney.

10 But you can't tell fluid in the urine. You
11 can't tell glomeruli, tubules. You can't tell any of
12 that, because it's all the same density on the CT.

13 Q Okay. Based on what your review of those
14 images showed, do you hold any opinions as to whether
15 the radiologist who reviewed that should have then taken
16 any subsequent steps?

17 A Again, I don't think so. He would have
18 reported back that, "I don't see any kidney stones."

19 Now, again, the -- it's the clinician who
20 ordered this study who has to say, "Oh, the kidney stone
21 that I thought was there is not, so if I still have
22 unexplained symptoms, do I need to consider anything
23 else?"

24 At that point the clinician might say, "Well,
25 maybe we ought to do a contrast study," or whatever,

1 depending on what the symptoms were that weren't
2 explained by the lack -- the kidney stone that's not
3 there.

4 Q Do you believe that the -- do you have any
5 opinions as to whether the radiologist has any
6 responsibility to suggest that?

7 A You know, looking for kidney stones is one of
8 those things where the radiologist usually gives a
9 direct answer, "There are no calculi," or, "There are
10 calculi. Here are the size. Here's where it is."

11 If the radiologist sees something on the image
12 that he or she thinks is potentially significant in
13 explaining the patient's symptoms -- and, again, if the
14 radiol- -- if all the symptoms are is, "Rule out kidney
15 stone," which is what often the radiologist gets, then
16 he doesn't know anything else and he says, "No kidney
17 stone. I don't see anything else."

18 On the other hand, if he gets something that
19 says -- who knows -- "and one of the things we're
20 considering is kidney stones," and he doesn't see a
21 stone, sometimes the radiologist will say -- again, not
22 very often, because radiologists are very sensitive
23 about telling the referring physicians what to do.
24 Some -- because referring physicians can be very
25 sensitive. He might say, "If the symptoms are this,

1 maybe we ought to add contrast."

2 And some radiologists will say that. But
3 it's -- it's certainly not the standard of care to do
4 that, again, when you don't see anything.

5 Q Okay. And just so I understand your answer,
6 it's your opinion that the standard of care did not
7 require the radiologist in this case, upon not seeing
8 any renal calculi, to subsequently suggest further
9 studies?

10 A That's correct.

11 Q Doctor, getting back to your expert report, the
12 first thing I want to refer you to under your opinion
13 specifically is in the first opinion you have there.
14 And it talks about the probability of demonstrating
15 findings that would suggest the presence of an AEF.

16 A Uh-huh.

17 Q Are you aware of any medical literature that
18 quantifies the increased likelihood that a
19 contrast-enhanced study would pick up an AEF as opposed
20 to a non-contrast study?

21 A Not specifically. When I did my initial quick
22 literature look to see if my ideas were as correct as I
23 thought they were, I did notice that a couple -- most of
24 the studies that I looked at -- and they're all studies
25 in which I believe they knew that they were AEFs and now

1 they're looking at what the findings were rather than
2 the de novo, they all were done with contrast,
3 basically.

4 So I don't know of anybody who does routine
5 abdominal-type issues, pain of any type, almost, or any
6 symptom, that routinely does non-contrast studies. So
7 all of the experience I think that everybody has is with
8 IV and oral contrast. Or, as I said, more recently,
9 with very high resolution scanners, they'll omit
10 initially oral if they're looking specifically for an
11 AEF, for a vascular lesion.

12 Q Setting aside the medical literature and case
13 studies, as we sit here today, could you personally
14 quantify the increase in probability that a
15 contrast-enhanced study would pick up an AEF that a
16 non-contrast study wouldn't?

17 A Well, to make the diagnosis of AEF, you
18 absolutely need contrast. A non-contrast study will not
19 allow you to make a specific diagnosis of AEF.

20 Q Yes. And that's a little bit different than my
21 question. My question was, you know, picking it up,
22 determining signs that are concerning for it.

23 A Ah. Again, the only sign that I think that you
24 could reasonably expect, if there was a moderate amount
25 of gas, air, in the perigraft region on a non-contrast

1 study, you might say, "What is this?"

2 Now, I want to be real clear. Even if you saw
3 air in a perigraft region, without contrast in the
4 bowel, you do not -- again, depending on the amount,
5 and, you know, it's rarely a giant amount. But if it's
6 just some air because there's an infection, you may
7 not -- in a non-contrast study, you may see it and say,
8 "Well, it's probably in the bowel, which is right next
9 to this."

10 Again, if you were specifically looking for an
11 AEF and somebody said, "This patient has an AEF and
12 there's no way in the world that we can give contrast
13 intraven-" -- well, see, everybody would do intravenous
14 and oral.

15 I think if there was an infection with a
16 moderate amount of air, you would see that air in a
17 non-contrast study. But in many, many of those you
18 would not be able to say that it wasn't just air in
19 adjacent bowel.

20 Q Okay. Obviously here in this case they just
21 did a non-contrast study. As a result, based on
22 anything else you've reviewed, can we speculate as to
23 what a contrast-enhanced study would have shown if it
24 were done at this point in time?

25 MR. SMITH: I'm just going to object to the

1 word "speculate."

2 A Okay. I know, because I can only go from what
3 I know, that the next day they did a contrast study and
4 it showed an AEF. To the extent that there were
5 symptoms present that brought the patient to the
6 attention of the physicians on this date, if those
7 symptoms were related to a leak and AEF, I think that
8 you would see something. Remember I said that you see
9 85 percent of these things, if you're looking for them,
10 with oral and intravenous contrast. That's what --

11 Q And my question actually was, do you know that
12 or are you hypothesizing?

13 A Well, to the extent that the study wasn't done,
14 I do not know.

15 Q It's possible that a contrast-enhanced study
16 could have actually come back and shown no signs of AEF
17 is that right?

18 A I think that's correct. I think the literature
19 would suggest, or my experience -- you could read the
20 literature -- my experience is, and, again, from what I
21 remember from conferences and all this, is that if there
22 is an AEF present, it's seen 85 to 90 percent of the
23 time with oral and intravenous contrast studies.

24 Q Moving on, Doctor, to the second opinion that
25 you have here, talking about patients with abdominal

1 pain, in patients with abdominal pain you say a CT with
2 intravenous contrast is usually performed?

3 A Yes, with oral and intravenous contrast.

4 Q Are those patients that you're referring to
5 there all inpatients, or are sometimes you referred
6 to -- are sometimes patients with abdominal pain
7 referred to you for a CT on an outpatient basis?

8 A Yes, sir.

9 Q Is your experience that a patient with
10 nondescript abdominal pain is routinely retained in the
11 hospital until those diagnostic studies are done?

12 A No. It depends on the severity. I mean, if
13 someone's really sick as hell, they're going to perhaps
14 be retained in the hospital no matter what, but we do
15 lots of outpatient studies for abdominal symptoms.

16 Q Okay. The last opinion you have here talking
17 about melena and heme occult positive stool --

18 A Uh-huh.

19 Q -- you indicate there that CTs are done. And
20 the question I have is, is that referring to a patient
21 with melena in the somewhat recent history?

22 A You know, I think I was just trying to comment
23 as to when oral and intravenous contrast is done.
24 Really and truly, everybody does oral and intravenous
25 contrast on CT studies. It's very uncommon to do -- I

1 mean, I can't even remember when -- the only time you
2 might not do intravenous contrast is if somebody says,
3 "This patient is highly allergic to contrast," iodinated
4 contrast, or non-ionic contrast, which is less an
5 allergenic, but is -- and you might do just oral for the
6 first study, and if it doesn't answer questions, then
7 they might say, "You know, we really need the IV
8 contrast. We'll pretreat the patient with, you know,
9 Benadryl-type drugs and steroid-type drugs and watch
10 them carefully and" -- but it's just not common. I
11 mean, and -- that's all.

12 Q Okay, sir. Just to be more specific, I'm
13 actually trying to drill down on the comment specific to
14 melena --

15 A Sure.

16 Q -- as a symptom that might trigger a CT exam.
17 And the question is, essentially, how much melena does
18 one have to have before a CT exam is indicated?

19 And so the question would be if someone has one
20 instance in the last three days, is that something
21 sufficient that you would say, as a radiologist, "Yes,
22 they need to get a CT study done"?

23 A In my experience, if someone has melena, blood
24 in the stool, a doctor does an examination and sees a
25 hemorrhoid, they -- and it looks like it's an inflamed

1 hemorrhoid, or, you know, they do -- and there are some
2 internal hemorrhoids, they will treat those hemorrhoids.
3 And if the melena goes away, it's the first episode,
4 depending on -- depending on the patient's stage, they
5 may not do a CT or anything.

6 On the other hand, if they don't find anything
7 in terms of hemorrhoids and there has been melena,
8 depending on the physician, they may do a colonoscopy,
9 they may do upper endoscopy, depending on the symptoms,
10 and some will do a CT with contrast. Depending on the
11 age, they may do -- instead of doing a colonoscopy, some
12 people, they'll do a new air contrast CT colonoscopy,
13 which is -- you know, you do -- instead of just a
14 regular enema, you're doing -- with CT -- you're doing
15 thin sections and there's a lot of air and it's a new
16 technique which people think may be as good as
17 colonoscopy.

18 So there are lots of things that go into what
19 the doctor does next with melena. But the point I was
20 making is when a CT is done, if it's not an air contrast
21 CT colonoscopy, a routine CT more often -- is done with
22 oral and intravenous contrast.

23 Q Yeah, and I appreciate that, Doctor, again.
24 But I still want to get a little more clarification as
25 to that the melena is some kind of triggering factor.

1 And let's just be maybe clear and more direct.

2 Let's say there's one instance of melena over a
3 seven-day period. Does the standard of care at that
4 point require a referring physician to say that person
5 should get a CT exam?

6 A I believe that you -- that that's a question
7 that would be answered more by an internist or a
8 gastroenterologist or a colon and rectal surgeon rather
9 than me.

10 Q Okay.

11 Okay, Doctor. Just a few final questions.
12 Obviously we've understood that you're a radiologist,
13 right?

14 A Yes.

15 Q And how long have you been practicing
16 radiology?

17 A I finished my training in 1975.

18 Q Okay. And since that time to the present
19 you've been practicing radiology?

20 A Yes, sir.

21 Q Okay. And you're offering obviously your
22 opinions in this case in your capacity as a radiologist,
23 correct?

24 A Yes, sir.

25 Q Okay. You're not offering any opinions as to

1 whether the standard of care was met by emergency
2 physicians in this case; is that right?

3 A Yes, sir.

4 Yes, sir, I'm not offering any opinions.

5 Q And you're not offering any opinions as a
6 vascular surgeon?

7 A That's correct.

8 Q And, likewise -- I think we talked about this
9 earlier -- you're not offering any opinions in this case
10 with respect to the possibility of a surgical outcome if
11 an AEF had been determined in this patient?

12 A That's correct.

13 Q Okay. And getting back to your experience,
14 have you ever served in a clinical capacity serving a
15 patient population that was chronically homeless?

16 A Yes, sir.

17 Q And what instance in your career was that?

18 A Mostly it was in the last 20 years, ten years
19 at the University of Maryland in Baltimore and the last
20 ten years at the Shands Hospital here in Jacksonville.

21 Q Okay. And with respect to the University of
22 Maryland experience you had, what -- when was that
23 experience?

24 A It's on the CV. I think it was '92 or '3 to
25 2000 or 2001.

1 Q Okay. And can you describe for us generally,
2 then, what you did in reference to this particular
3 patient population?

4 A Well, I was in the imaging department. I
5 didn't see them clinically, but to the extent that, you
6 know, X percent of our patients were indigent and X
7 percent of those were homeless, because we took care of
8 the prison population and we -- you know, we were one of
9 the places that homeless people go. And the clinics
10 that we serve, both in the hospital and the outreach
11 clinics, many of them are geared to people without
12 insurance, and that's where the homeless fall. So to
13 the extent that they were seen by the physicians
14 affiliated with the University of Maryland, we did the
15 imaging. But I didn't do any clinical stuff.

16 Q Certainly, Doctor.

17 Based on that experience, do you have any
18 opinions as to whether the homelessness of these
19 patients impacts the ability to treat them medically?

20 A I'm sorry. Would you say that again, please?

21 Q Sure.

22 Based on your experience, did you encounter any
23 difficulties in treating this population because of
24 their homelessness? Did that present any additional
25 complications for the treatment that they needed to

1 receive?

2 A Yes, that's correct. Both homeless and
3 indigent have difficulty often getting back to the
4 hospital for follow-up visits. They have difficulty --
5 they can't afford medications. So as a result you often
6 do things slightly differently. You may order some more
7 things during the first visit.

8 You'd have to ask clinicians about, you know,
9 whether they, you know, admit them more frequently
10 because they need to have them there. But if you have a
11 choice about doing something right then or potentially
12 doing it tomorrow, you tend to do it right then, if you
13 can.

14 Q Uh-huh.

15 A But you give everybody the same quality of
16 care.

17 Q Yes.

18 Doctor, I want to ask about a slightly
19 different patient population now. Specifically, in your
20 role as a radiologist, have you had occasion to do
21 diagnostic studies of individuals with alcoholism
22 problems?

23 A Yes.

24 Q In your experience, does having alcohol abuse
25 problems impact the bowel and abdomen areas such that

1 you as a radiologist are able to see that on a CT exam?

2 A Yes.

3 Q And how, if at all, then, does it impact what
4 you're seeing on a CT exam?

5 A Well, you can see cirrhosis. You can sometimes
6 see varices, that kind of thing. I mean, we sometimes
7 see people who are severely alcoholic and they get
8 emaciated, and you see an emaciated person as opposed to
9 one with a lot of fat.

10 Q Does alcohol abuse at all complicate the
11 ability to read a CT exam of an individual's abdomen
12 area?

13 A Not really.

14 Q Doctor, the last thing I want you to take just
15 a quick look at is the second page of Exhibit 2. This
16 is the list of your prior testimony?

17 A Yes, sir.

18 Q The list I have lists 22 separate listings
19 there?

20 A Yes, sir.

21 Q Okay. In any of these cases did you render any
22 opinions with respect to a person who had an AEF?

23 A No, sir.

24 MR. MEDINGER: Okay, Doctor. That's all the
25 questions I have at this time. Mr. Smith might have

1 some questions for you now.

2 CROSS-EXAMINATION

3 BY MR. SMITH:

4 Q In the non-contrast study, so we're talking
5 about the study of October 9th, 2007, in the report that
6 was done by the radiologist -- and I don't remember
7 whether it was a he or a she -- said, "Bypass graft
8 could be seen, but evaluation of its integrity was
9 limited due to the lack of intravenous contrast."

10 What did you understand the radiologist to be
11 communicating by that sentence?

12 MR. MEDINGER: Objection.

13 You can answer, Doctor.

14 A I think that's, you know, standard language of,
15 you know, if you're interested in the graft, you've got
16 to do contrast. I mean, he's just pointing out to the
17 physician that, you know, we don't evaluate those issues
18 without contrast. I mean, I think that's what he's
19 saying.

20 Q Now, could you explain how it is that
21 contrast assists the radiologist in seeing whether or
22 not there's air around the graft and not air in the
23 bowel?

24 A Well, intravenous contrast itself might or
25 might not help in that regard. If you're giving

1 intravenous contrast and you see it leak out and it
2 leaks out and is irregular in an area where there's some
3 air and that irregularity doesn't look like bowel, you
4 would say that air is in an area where there's some
5 leakage and it's not bowel.

6 If the leakage goes into bowel and you see the
7 air within the bowel, you say the air is in the bowel.

8 Q Are you aware of any radiologist who
9 investigates AEFs by using CTs without contrast?

10 A No.

11 Q If a thoracic surgeon were to testify that AEFs
12 are routinely evaluated by CTs without contrast, would
13 you agree or disagree with that statement?

14 A I would disagree.

15 MR. SMITH: I don't have any other questions.

16 MR. MEDINGER: Yeah. Nothing further based on
17 that.

18 Thank you, Doctor.

19 THE WITNESS: Thank you all.

20 MR. MEDINGER: And, Ms. Court Reporter, what
21 information do you need from me?

22 THE COURT REPORTER: When -- if you're
23 ordering, when you need it, and do you want a rough
24 draft, things like that.

25 MR. SMITH: I just need it whenever the normal

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1 course is for your delivery. My name, again, is
2 Michael Smith. And all I'm looking for is an E-tran
3 and mini.

4 THE COURT REPORTER: Okay.

5 MR. SMITH: And my e-mail address is
6 smith@scbmaw.com.

7 THE COURT REPORTER: Okay.

8 MR. SMITH: If there's any order sheets we have
9 to sign ahead of time, whatever it is, as long as
10 you e-mail it to me, it will be done and gotten back
11 to you very quickly.

12 THE COURT REPORTER: Can I just get your phone
13 number?

14 MR. SMITH: Sure. 410-539-6633.

15 THE COURT REPORTER: Thank you.
16 And Mr. Medinger?

17 MR. MEDINGER: Yeah, we'd like an E-tran and
18 mini as well. And regular delivery is fine.

19 THE COURT REPORTER: And you get the original?

20 And you're getting the original, Mr. Medinger?

21 MR. MEDINGER: Yeah, we're getting the
22 original.

23 THE COURT REPORTER: Okay. Will do.
24 (Off-the-record discussion.)

25 THE COURT REPORTER: Mr. Medinger, I'm sure

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1 your telephone number is on the notice.

2 MR. MEDINGER: Yes, it is on the notice.

3 THE COURT REPORTER: And your e-mail address?

4 MR. MEDINGER: The e-mail address actually
5 isn't. Let me give that to you. It's just first
6 name dot last name, so it's jason.medinger, and then
7 that's @usdoj.gov.

8 THE COURT REPORTER: Okay. And when you --
9 when you both said mini, does that mean you do not
10 want the full-size hard copy, just the mini hard
11 copy, or both?

12 MR. SMITH: I only want mini.

13 THE COURT REPORTER: Okay. And --

14 MR. MEDINGER: And the government would like
15 both, please.

16 (Witness excused.)

17 (The deposition was concluded at 12:09 p.m.)

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1 CERTIFICATE OF OATH

2
3 STATE OF FLORIDA)
4 COUNTY OF DUVAL)

5
6 I, the undersigned authority, certify that
7 LAWRENCE E. HOLDER, M.D., personally appeared before me
8 on January 25, 2012, and was duly sworn.

9 WITNESS my hand and official seal this 3rd of
10 February, 2012.

11
12
13
14
15 Teresa S. DeCiancio, RDR, CRR, CCP, CBC, FPR
Notary Public - State of Florida
My Commission expires: July 17, 2013
My Commission No. DD 900675

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1 REPORTER'S CERTIFICATE

2
3 STATE OF FLORIDA)
4 COUNTY OF DUVAL)

5
6 I, Teresa S. DeCiancio, RDR, CRR, CCP, CBC,
7 FPR, certify that I was authorized to and did
8 stenographically report the deposition of LAWRENCE E.
9 HOLDER, M.D.; that a review of the transcript was
10 requested; and that the foregoing transcript, Pages 1
11 through 70, is a true and complete record of my
12 stenographic notes.

13 I further certify that I am not a relative,
14 employee, attorney, or counsel of any of the parties,
15 nor am I a relative or employee of any of the parties'
16 attorney or counsel connected with the action, nor am I
17 financially interested in the action.

18
19 DATED this 3rd of February, 2012.

20
21
22 Teresa S. DeCiancio, RDR, CRR, CCP, CBC, FPR

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In re: GOODIE, et al. v. UNITED STATES OF AMERICA
 DEPOSITION OF LAWRENCE E. HOLDER, M.D.
 TAKEN January 25, 2012

DATE SENT TO WITNESS: February 3rd, 2012

TO: LAWRENCE E. HOLDER, M.D.
 12304 Arbor Drive
 Ponte Vedra Beach, Florida 32082

Dear Dr. Holder:

The referenced transcript has been completed and
 awaits reading and signing.

Please call your attorney to arrange to read and
 sign the transcript.

Please complete by January 6th but no later than
 the trial in this case.

The original of this deposition has been forwarded
 to the ordering party, and your errata sheet, once
 received, will be forwarded to all parties as listed
 below.

Thank you.

Teresa S. DeCiancio, RDR, CRR, CCP, CBC, FPR

cc: Jason D. Medinger, Esquire

Michael P. Smith, Esquire

Waiver:

I, LAWRENCE E. HOLDER, M.D., hereby waive the reading &
 signing of my deposition and transcript.

Deponent's Signature Date

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ERRATA SHEET

DO NOT WRITE ON TRANSCRIPT - ENTER CHANGES HERE

In re: GOODIE, et al. v. UNITED STATES OF AMERICA

Case Number: RDB-10-3478

Deposition of LAWRENCE E. HOLDER, M.D.

Taken on Wednesday, January 25, 2012

PAGE NUMBER LINE NUMBER SUGGESTION/REASON

Under penalties of perjury, I declare that I have read
 the foregoing document and that the facts stated in it
 are true.

DATE LAWRENCE E. HOLDER, M.D.

cc: Teresa S. DeCiancio

Michael P. Smith, Esquire

Jason D. Medinger, Esquire